



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q94925

Tsutomu OSODA, et al.

Appln. No.: 10/579,336

Group Art Unit: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Examiner: Not Yet Assigned

Filed: May 15, 2006

For: ACTIVE LEARNING METHOD AND SYSTEM

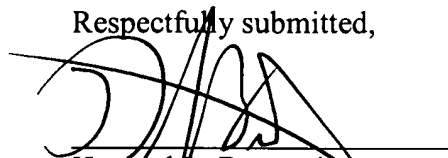
**SUBMISSION OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

For the Examiner's convenience, enclosed herewith is a copy of the English translation of the International Preliminary Report on Patentability (IPRP). It is assumed that copies of the cited references as required by §371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned will undertake to provide them upon request.

Respectfully submitted,

  
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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: September 12, 2006

From the INTERNATIONAL BUREAU

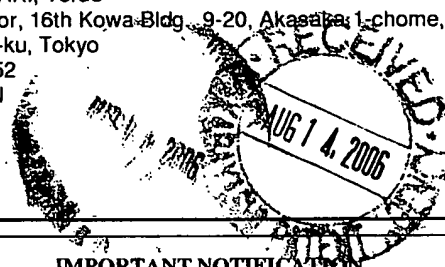
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**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

MIYAZAKI, Teruo  
8th Floor, 16th Kowa-Bldg., 9-20, Akasaka 1-chome,  
Minato-ku, Tokyo  
1070052  
JAPON



Date of mailing (day/month/year) 03 August 2006 (03.08.2006)	
Applicant's or agent's file reference NEC04P242	IMPORTANT NOTIFICATION
International application No. PCT/JP2004/014917	International filing date (day/month/year) 08 October 2004 (08.10.2004)
Applicant NEC CORPORATION et al	

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Yoshiko Kuwahara



Facsimile No. +41 22 338 82 70

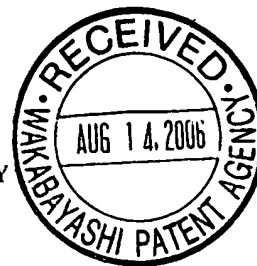
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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)



Applicant's or agent's file reference NEC04P242	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/JP2004/014917	International filing date ( <i>day/month/year</i> ) 08 October 2004 (08.10.2004)	Priority date ( <i>day/month/year</i> ) 17 November 2003 (17.11.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant NEC CORPORATION			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
  2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/> Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 24 July 2006 (24.07.2006)
Facsimile No. +41 22 338 82 70	Authorized officer <p style="text-align: center; font-weight: bold;">Yoshiko Kuwahara</p> e-mail: pt07@wipo.int

# PATENT COOPERATION TREATY

TRANSLATION

PCT

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

<p>To:</p>		<p>Date of mailing (day/month/year)</p>
<p>Applicant's or agent's file reference <b>NEC04P242</b></p>		<p style="text-align: center;"><b>FOR FURTHER ACTION</b> See paragraph 2 below</p>
<p>International application No. <b>PCT/JP2004/014917</b></p>	<p>International filing date (day/month/year) <b>08.10.2004</b></p>	<p>Priority date (day/month/year) <b>17.11.2003</b></p>
<p>International Patent Classification (IPC) or both national classification and IPC</p>		
<p>Applicant <b>NEC CORPORATION</b></p>		

<p>1. This opinion contains indications relating to the following items:</p>	
<input checked="" type="checkbox"/>	<p>Box No. I Basis of the opinion</p>
<input type="checkbox"/>	<p>Box No. II Priority</p>
<input type="checkbox"/>	<p>Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p>
<input type="checkbox"/>	<p>Box No. IV Lack of unity of invention</p>
<input checked="" type="checkbox"/>	<p>Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p>
<input type="checkbox"/>	<p>Box No. VI Certain documents cited</p>
<input type="checkbox"/>	<p>Box No. VII Certain defects in the international application</p>
<input checked="" type="checkbox"/>	<p>Box No. VIII Certain observations on the international application</p>
<p>2. <b>FURTHER ACTION</b></p> <p>If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.</p> <p>For further options, see Form PCT/ISA/220.</p>	
<p>3. For further details, see notes to Form PCT/ISA/220.</p>	

<p>Name and mailing address of the ISA/IP</p>	<p>Authorized officer</p>
<p>Facsimile No.</p>	<p>Telephone No.</p>

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/014917

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language  
\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/014917

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	2, 3, 8, 9, 11-14, 16, 17	YES
	Claims	1, 4-7, 10, 15, 18	NO
Inventive step (IS)	Claims	2, 3, 8, 9, 11-14, 16, 17	YES
	Claims	1, 4-7, 10, 15, 18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

**2. Citations and explanations:**

Document 1: Abe, Umamizuka, "Nodo Gakushu to Hakken Kagaku", edited by Morishita, Miyano, "Hakken Kagaku to Data Mining", Kyoritsu Shuppan Co., Ltd. 05 May 2000, pages 64 to 72

Document 1 (in particular, see "2.3 Query by Boosting" described on page 67) describes an active learning method and system in which a hypothesis is generated using sampled learning data, a function value for each point of a candidate questioning point is predicted using the generated hypothesis, the questioning point whose predicted points are most diverse is selected, and the learning data is updated through an actual function value relating to the questioning point is obtained from outside. "Learning data", "hypothesis", "a candidate questioning point", "a function value", "a questioning point" described in document 1 correspond to "known data", "learning result", "unknown data", "label value", "next data to be learned", respectively.

Because document 1 (page 67, left column, lines 5-8) describes the selection of a questioning point based on the "total weight of hypothesis", it is equivalent to calculating the next data to be learned based on weighting. In addition, because the last line on page 67 of document 1 describes "a sample of number m of data obtained in accordance with distributed Dt", it is equivalent to performing sampling according to weighting.

Therefore, the inventions of claims 1, 4-7, 10, 15 and 18 do not appear to possess novelty or involve an inventive step. Grouping known data or unknown data is neither described in documents cited in the ISR; nor can it be obvious taking into consideration a common general technical knowledge. Thus, the inventions of claims 2, 3, 8, 9, 11-14, 16 and 17 appear to possess novelty and involve an inventive step.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/014917

Box No. VIII      Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- (1) Neither claims, the description or drawings describes clearly how to operate grouping.
- (2) In the inventions of claims 1-18, when calculating the next data to be learned, how to group the results of a prediction and how to calculate it are unclear.